



Workshop on Mitochondria, Energetics, Epigenetics, Environment, and DNA Damage Response

March 25, 2013

NIEHS, Building 101, Rodbell Auditorium

- 8:00 a.m. **Opening – Rick Woychik**, NIEHS Deputy Director
- 8:10 a.m. **Introduction – Frederick Tyson**, Division of Extramural Research and Training, NIEHS
- 8:15 a.m. **Session 1: Role of mitochondria metabolism and energetics in epigenetic regulation**
Overview: mitochondria as a target of environmental toxicants
Joel Meyer, Duke University
- 8:45 a.m. Epigenomics, sirtuins, and energetics
Raul Mostoslavsky, Massachusetts General Hospital
- 9:15 a.m. Mitochondrial metabolism and redox regulation of epigenetic processes
Frederick Domann, University of Iowa
- 9:45 a.m. Metaboloepigenetics: interrelationships between energy metabolism and epigenetic regulation of gene expression
Scott Bultman, University of North Carolina at Chapel Hill
- 10:15 a.m. Break
- 10:30 a.m. Mitochondrial genetics and epigenetics: A novel path linking air pollution to human disease
Andrea Baccarelli, Harvard University
- 11:00 a.m. Discussion
- 11:20 a.m. **Session 2: Energetics and DNA damage response**
The effect of mitochondrial damage and dynamics on cellular bioenergetics, mitosis, and cellular physiology
Bennett Van Houten, University of Pittsburgh
- 11:50 a.m. Nutrient stress and selective autophagy regulate the DNA damage response
Thomas Begley, College of Nanoscale Science and Engineering, University at Albany – SUNY
- 12:20 p.m. Lunch
- 1:30 p.m. ATM: A connection between DNA damage signaling and mitochondrial function
Michael Kastan, Duke University
- 2:00 p.m. PARP, bioenergetics, and base excision repair
Robert Sobol, University of Pittsburgh
- 2:30 p.m. Break
- 2:45 p.m. Discussion
- 3:05 p.m. **Session 3: Incorporating systems biology in energetics and stress response**
Integrated 'omics uncovers mitochondrial metabolism and stress response
Matthew Hirschey, Duke University
- 3:35 p.m. Genetic networks dissect cross-talk among DNA damage response pathways
Trey Ideker, University of California, San Diego
- 4:05 p.m. Tox21 screening for mitochondrial toxicity
Michael DeVito, National Toxicology Program, NIEHS
- 4:35 p.m. Discussion
- 5:00 p.m. Adjourn